only one grade, NB, and one physical property specification, which limits the rate of water absorption to 28%. *Partition tile* is used to construct non-loadbearing interior partitions. *Furring tile* is used to line the inside surface of exterior walls, providing an insulating air space and a surface suitable for plastering. Partition and furring tile may be used to fireproof structural steel members, but for some applications around beams and girders, special shapes of *fireproofing tile* are required to conform to the profile of the steel. Clip and angle shapes have been devised for this purpose and, when used in conjunction with conventional rectangular tiles, provide a simple means of complete coverage (*see Fig. 3-20*).

Tile that will be plastered must have a surface texture that provides good bond between plaster and unit (*see Fig. 3-21*). ASTM C56 covers smooth (wire cut), scored, combed, and roughened finishes.

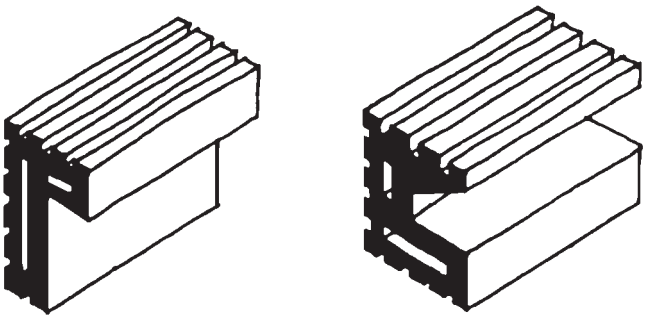

Figure 3-20 Clip and angle tiles for fireproofing steel beams.

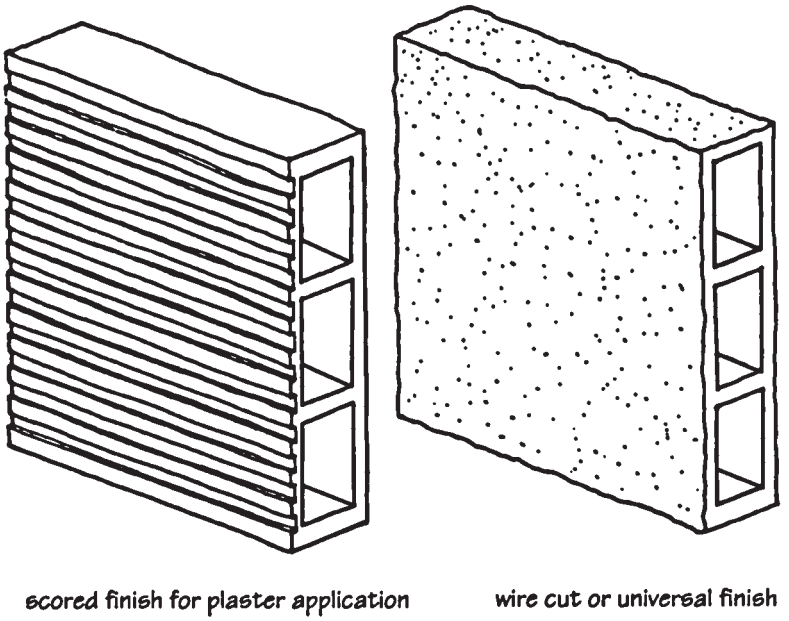

Figure 3-21 Tile is available with several different surface textures.

3.2.3 Facing Tile

Facing tile combines the loadbearing capacity of ordinary structural clay tile with a finished surface suited for architectural applications. These natural-color unglazed tiles are covered in ASTM C212, *Standard Specification for Structural Clay Facing Tile*. Two classes of tile are defined, based on face shell and web thickness. "Standard" tiles are general-purpose units for exterior or interior locations. "Special duty" tiles have heavier webs and shells designed to increase resistance to impact and moisture penetration. Aesthetic factors are designated the same as for face brick. Type FTX (Select) tiles have a smooth finish for general use in interior and exterior applications requiring minimum absorption, easy cleaning, and resistance to staining. They provide a high degree of mechanical perfection, narrow color range, and minimum variation in face dimensions. Type FTS (Standard) tiles may have a smooth or rough texture, are suitable for interior and exterior construction where moderate absorption and moderate variation in face dimensions are permissible, and may be used where minor defects in surface finish are not objectionable. ASTM C212 lists compressive strength and absorption, and sets limits on chippage, dimensional variation, and face distortion (*see Fig. 3-19*). Sizes and shapes are shown in *Fig. 3-22*.

3.2.4 Ceramic Glazed Facing Tile

Most of the structural clay tile used in new construction today is glazed. Glazed units are also of loadbearing quality, but have an impervious finish in either clear or color glaze. Physical requirements are outlined in ASTM C126, which also governs glazed brick. For exposed exterior applications, the tile body should also meet the durability requirements for ASTM C652, Grade SW hollow brick units. Exterior applications should also be limited to vertical cell tile, since horizontal cells can trap moisture in the wall. If the units are frozen when wet, the glazed surface can easily spall. Grade and type classifications for glazed tile are identical to those for glazed brick. Grade S (select) units are used with comparatively narrow mortar joints. Grade SS (selected sized, or ground edge) are used where variation of face dimension must be very small. Both grades may be produced in either Type I, single-faced units, where only one face is glazed, or Type II, double-faced, where two opposite faces are glazed. ASTM C126 covers compressive strength, absorption rate (*see Fig. 3-19*), number of cells, shell and web thickness, dimensional tolerances, and properties of the ceramic finish, including imperviousness, chemical resistance, and crazing.

The shapes of all structural tile units are controlled by the dies through which the plastic clay is extruded. The relative ease with which various designs can be produced led to the development of a large number of sizes and patterns. Through a process of standardization, this number has been reduced to only the most economical and useful units. Development and acceptance of the criteria for modular coordination encouraged refinement aimed at correlation with other manufactured masonry products. Structural clay tile is designed for use with ¼-, ⅜-, or ½-in. mortar joints, while facing tile uses only ¼-in. joints. Nominal dimensions, as for brick, include this thickness and are multiples of the 4-in. module or fractions of a multiple of that module (i.e., three courses of 5⅓-in.-high tiles equals 16 in.).

The nomenclature of shape numbers can be bewildering because of the many possible combinations, but the system is really fairly simple (*see Fig. 3-23*). The prefix is an alphanumeric designation of length, height, and coring, followed by numbers denoting horizontal and vertical axis conditions (such as cove base, bullnose, or stretcher) and bed depth, and a letter suffix